

## ARTILLERY AMMUNITION

In the magnitude of the quantities involved the Artillery ammunition program was the biggest of all. Copper, steel, high explosives, and smokeless powder were all required by the hundreds of millions of pounds. As no firms were prepared to manufacture complete rounds, it was necessary for the Ordnance Department to make contracts for each component and to assume the burden of directing the distribution of these components between manufacturers. For the shrapnel it was possible to use the design substantially the same as that which had previously been used in this country, but the high explosive and gas shell proved more troublesome. A large supply of American shell was produced, however, before the signing of the armistice, and shipment to Europe in quantity had begun. The ammunition actually used against the enemy at the front was nearly all of French manufacture, but the approaching supply from America made possible a more free use of the French and British reserves. As shown in diagram 30, our monthly production of artillery ammunition rose to over 2,000,000 complete rounds in August and over 3,000,000 rounds in October if we include United States calibers. By the end of 1918 the number of rounds of complete artillery ammunition produced in American plants was in excess of 20,000,000, as compared with 10,000,000 rounds secured from the French and British.

## BRITISH AND AMERICAN ARTILLERY PRODUCTION

One mode of measuring our accomplishments in the way of artillery production is to compare what we succeeded in producing in our own plants in the first 20 months after the declaration of war with what Great Britain produced in the first 20 months after her entry into the war. This comparison is made in diagram 31, which compares for that period of time American and British production of complete units of light and heavy artillery and rounds of light and heavy shells. Antiaircraft artillery (a small item) is not included in either class. Canadian production of machined shell for Great Britain and the United States is included in each case.